



Microtia/Atresia

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- During the first 20 weeks of fetal development, all the structures of the ear form.
- Sometimes the development of the ear structure is interrupted or does not complete. This can lead to microtia and/or atresia.
- Microtia/atresia can occur due to genetic conditions or syndromes, but it also can occur for no reason.
- Microtia is when the external ear is small and not formed properly.
- Atresia is the lack of a fully developed ear canal, eardrum, middle ear space, and ear bones. Aural atresia is often accompanied by microtia.
- There are four grades of microtia severity:
 - Grade 1 - The child may have an external ear that appears small but mostly normal, but the ear canal may be narrowed or missing.
 - Grade 2 - The bottom third of the child's ear, including the earlobe, may appear to be normally developed, but the top two-thirds are small and malformed. The ear canal may be narrow or missing.
 - Grade 3 - This is the most common type of microtia observed in infants and children. The child may have underdeveloped, small parts of an external ear present, including the beginnings of a lobe and a small amount of cartilage at the top. With grade 3 microtia, there is usually no ear canal (atresia).
 - Grade 4 - The most severe form of microtia, also known as anotia. The child has anotia if there is no ear or ear canal present, either unilaterally or bilaterally.
- Treatment options may include surgical reconstruction, though this may not typically happen until the child is older when cartilage is more abundant and more easily grafted.
- The fitting of a hearing aid or a Bone Anchored Hearing Aid (BAHA) may be recommended. Hearing aids can only be used if the ear canal is present and open.
- A BAHA can be used for any grade microtia and atresia.
- A BAHA creates sound vibrations, which are transmitted across the skull bones to the bony inner ear allowing the child to hear.
- For infants, toddlers and young children the BAHA is worn on a headband. When the child is older (approximately 5 years or older) a metal abutment can be surgically implanted into the skull so the BAHA can snap on and be worn without a headband.
- Fitting hearing aids or BAHA(s) and enrolling in early intervention will help prevent speech and language delays and help ensure positive social, emotional and educational outcomes.